UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/806,064	03/22/2004	Kyu Shik Shin	U 015091-0	1547

7590 05/10/2007

Ladas & Parry
26 West 61 Street
New York, NY 10023

EXAMINER	
FRANTZ, JESSICA L	
ART UNIT	**PAPER NUMBER**
3746	
MAIL DATE	**DELIVERY MODE**
05/10/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/806,064	SHIN, KYU SHIK	
	Examiner	Art Unit	
	Jessica L. Frantz	3746	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 March 2004* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/9/07, 6/23/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a) because they fail to label a shaft support part 13 and a connecting rod 25 as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

2. The abstract of the disclosure is objected to because it exceeds the allowable 150-word limit. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-2 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida WO 03/008805 (for English translation please refer to US 7,144,299) in view of Dellby 6,450,785. Ishida teaches the invention substantially as claimed including a hermetic compressor as shown in figure 1, comprising: a hermetic casing 2; a frame 8, 5 provided in the hermetic casing; a drive unit 3 provided in a lower portion of the frame; a compression unit 6 provided on an upper portion of the frame; a rotating shaft 7 vertically installed in the frame to transmit a rotating force of the drive unit to the compression unit, with an eccentric part 7b provided on an upper end of the rotating shaft and coupled to the compression unit; and an oil feed unit as shown in figure 2 provided on the rotating shaft to feed oil from a bottom of the hermetic casing to a plurality of drive parts, the oil feed unit comprising: a first oil pickup unit 17 provided on a lower end of the rotating shaft to lift the oil upward from the bottom of the hermetic casing and inclinedly provided in the rotating shaft so that a central axis of the first oil feed path is diverged from the central axis of the rotating shaft in a direction from the

lower end to the upper end of the rotating shaft as shown in figure 2; a first oil feed path 19 provided in the rotating shaft above the first oil pickup unit while being eccentric from a central axis of the rotating shaft (see figure 2); a spiral oil feed groove 20 provided around an outer surface of the rotating shaft above the first oil feed path and communicating with the first oil feed path; a second oil feed path (not labeled, see figure 2) provided in the eccentric part of the rotating shaft and communicating with the spiral oil feed groove. Ishida further teaches an oil guide part 24, which is a flat surface in and axial direction, is provided on the outer surface of the rotating shaft so that the oil guide part extends from an upper end of the spiral oil feed groove to a position between the upper part of the frame and the lower end of the eccentric part of the rotating shaft. Also, Ishida further teaches the first oil pickup unit comprises: an oil guide body 7a having a cylindrical shape and provided with an oil inlet 29 at a lower end of the oil guide body, the oil inlet of the oil guide body having an inner diameter which is smaller than an outer diameter of the oil guide body as clearly shown in figure 2. Ishida fails to teach the following claimed limitations that are taught by Dellby: a second oil pickup unit 36 provided in the first oil feed path to increase an oil lift force for the purpose of ensuring the passage of oil from the sump to the interior of the shaft (see Dellby column 3, lines 31-37). As clearly shown, the unit 36 is a spiral blade. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the spiral blade pickup unit for the purpose of ensuring the passage of oil from the sump to the interior of the shaft (see Dellby column 3, lines 31-37).

5. Claims 3 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida WO 03/008805 (for English translation please refer to US 7,144,299) in view of Dellby 6,450,785 and further in view of Tamba et al. 4,901,819. The modified invention of Ishida in view of Dellby teaches the invention substantially as is discussed above but fails to teach the following claimed limitations that are taught by Tamba: the second oil feed path 28 is inclinedly provided in the eccentric part of the rotating shaft so that a central axis of the second oil feed path is diverged from the central axis of the rotating shaft in a direction from a lower end to an upper end of the eccentric part as is clearly shown in figure 1 and an auxiliary oil feed 44 path provided in the eccentric part of the rotating shaft in a radial direction to communicate with the second oil feed path. Tamba teaches both of these oil paths are provided in this manner in order to better lubricate the system (see Tamba column 3, lines 30-38 and column 1, lines 52-62). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the modified invention of Ishida in view of Dellby with the oil paths of Tamba in order to better lubricate the system (see Tamba column 3, lines 30-38 and column 1, lines 52-62).

6. Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida WO 03/008805 (for English translation please refer to US 7,144,299) in view of Dellby 6,450,785 and further in view of Hiratsuka JP 2001295766. The modified invention of Ishida in view of Dellby teaches the invention substantially as is discussed above but fails to teach the following claimed limitations that are taught by Hiratsuka: a thrust bearing 17 provided between the upper portion of the frame and a lower end of

the eccentric part of the rotating shaft, wherein the second oil feed path 18 extends from the eccentric part of the rotating shaft to a predetermined position of an interior of the rotating shaft under the bearing as shown in figure 1 and when combined with Ishida, communicates with the spiral oil feed groove via a communication hole which is provided on the rotating shaft in a radial direction. Also as discussed above in the teachings of Ishida, Ishida further teaches an oil guide part 24, which is a flat surface in and axial direction, is provided on the outer surface of the rotating shaft so that the oil guide part extends from an upper end of the spiral oil feed groove to a position between the upper part of the frame and the lower end of the eccentric part of the rotating shaft (which corresponds to the position of the trust bearing in claim 6). Hiratsuka teaches this structure for the purpose of enhancing the amount of lubricating oil supplied to the thrust bearing (see Hiratsuka Abstract). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have provided the modified invention of Ishida in view of Dellby with the bearing and lubrication structure of Hiratsuka for the purpose of enhancing the amount of lubricating oil supplied to the thrust bearing (see Hiratsuka Abstract).

7. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishida WO 03/008805 (for English translation please refer to US 7,144,299) in view of Tamba et al. 4,901,819 and further in view of Hiratsuka JP 2001295766. Ishida teaches the invention substantially as claimed and as discussed above but fails to teach the following claimed limitations that are taught by Tamba: the second oil feed path 28 is inclinedly provided in the eccentric part of the rotating shaft so that a central axis of the

second oil feed path is diverged from the central axis of the rotating shaft in a direction from a lower end to an upper end of the eccentric part as is clearly shown in figure 1 for the purpose of better lubricating the system (see Tamba column 3, lines 30-38 and column 1, lines 52-62). Hiratsuka teaches a thrust bearing 17 provided between the upper portion of the frame and a lower end of the eccentric part of the rotating shaft, wherein the second oil feed path 18 extends from the eccentric part of the rotating shaft to a predetermined position of an interior of the rotating shaft under the bearing as shown in figure 1 and when combined with Ishida, communicates with the spiral oil feed groove via a communication hole which is provided on the rotating shaft in a radial direction. Also as discussed above in the teachings of Ishida, Ishida further teaches an oil guide part 24, which is a flat surface in and axial direction, is provided on the outer surface of the rotating shaft so that the oil guide part extends from an upper end of the spiral oil feed groove to a position between the upper part of the frame and the lower end of the eccentric part of the rotating shaft (which corresponds to the position of the trust bearing in claim 6). Hiratsuka teaches this structure for the purpose of enhancing the amount of lubricating oil supplied to the thrust bearing (see Hiratsuka Abstract). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the invention of Ishida with the teachings of Tamba and Hiratsuka for the purpose of better lubricating the system (see Tamba column 3, lines 30-38 and column 1, lines 52-62) and purpose of enhancing the amount of lubricating oil supplied to the thrust bearing (see Hiratsuka Abstract).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jessica L. Frantz whose telephone number is 571-272-5822. The examiner can normally be reached on Monday through Friday 8:30a.m. - 5:00p.m. E.S.T..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Stashick can be reached on 571-272-4561. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jessica Frantz

JF

ANTHONY D. STASHICK
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700